



citizens' bulletin

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**\$14,631
FROM
RECYCLING
(p.2)**

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the Region I Recycling Center

'A Singularly Happy Experience'

Last month three visitors from Japan accompanied Charles Kurker, Assistant Director of the DEP Solid Waste Unit, to the regional recycling center in Barkhamsted, Connecticut. They were the plant manager for Katsushika Incinerator, Tokyo, a noted Japanese cameraman, and a Japanese-English interpreter. The three were there to film a documentary about advances in resource recovery. The film was aired over Japanese television on April 18.

Recalling how the visitors chatted through their interpreter and filmed the goings-on at the landfill, the center's only full-time, paid employee remarked, "I'm surprised that they were impressed by our project. They're ahead of us in so many other ways."

But in some ways this small Connecticut recycling center is an impressive project. Over the past nine months the center earned \$14,631.90 from the sale of reusable material and prolonged the life of the regional landfill by selling 1006.3 tons of material that otherwise would have been buried. These savings offset about 20 per cent of the region's total disposal costs.

Recycling is not new and Region I is not the only profitable recycling center in the state. But it is the only region-wide project, encompassing the four towns of Barkhamsted, Colebrook, New Hartford and Winsted; and it has turned up the highest profits of any Connecticut recycling center. As Kurker says, "When someone asks me where they can go to see a good regional recycling effort, Region I is the first place I think of."

Organized recycling began in the Region I Refuse Disposal District shortly after Earth Day 1971, according to Kathleen Barnes, Recycling Consultant for the center. Several environmental and civic groups in the four towns sponsored a large-scale litter pick-up and afterwards presented a petition to the Regional Refuse Disposal District (RRDD) Board of Directors, requesting that a recycling center be established at the regional landfill.

The Board had announced plans to shift disposal operations from the old landfill in Winsted to a new site in Barkhamsted. The groups presenting the petition hoped that when the new site was developed provisions would be made to set up a recycling shed there.

"To our great surprise the Board said why wait for the new landfill--start now with the one we have in Winsted," Mrs. Barnes recalled.

So the Four Town Recycling Center was begun. Even before a facility was constructed, the group received "extraordinary cooperation," according to Mrs. Barnes.

An anonymous donor gave \$600 towards the cost of the new recycling shed on the Winsted site. The Regional Refuse Disposal District contributed money; contributions were also made by churches, environmental groups, private firms, beautification committees and garden clubs. Town officials and the superintendent of landfill works contributed their time and expertise. Students at the Wolcott Trade School donated their labor to construct the building and recycling bins.

"Recycling became like Mother and home-made bread," said Mrs. Barnes. "We had over 100 volunteers working in one way or another."

In December, 1971 the Four Town Recycling Center in Winsted was opened. Staffed entirely by volunteers, it was equipped to accept glass, paper, cans, aluminum, tires and coathangers for recycling. During the first six months of operation the center earned a net \$444.20 from recycling, selling \$1,149.20 worth of material and spending \$705 in operational costs. During its 2 years, 4 months of operation the center earned a net \$4,000, keeping 750 tons of material from the Winsted landfill.

Meanwhile, other measures were taken to make recycling more convenient and therefore more popular. In 1972 the City of Winsted began a once-per-month curbside collection of recyclables. New Hartford followed suit in 1973 with a three-times-per-year curbside collection. Colebrook designated a shed near the center of town where people could leave sorted materials to be picked up by town trucks to be taken to the Four Town Center.

"Our main purpose was to reach people so they would separate their garbage in the first place," said Mrs. Barnes.

In 1974 the regional disposal site was moved from the old landfill site to a new area in Barkhamsted. The entire site, including the landfill, roads, heavy equipment and recycling shed and bins, cost about \$500,000. The money was raised from bonds issued by the four Region I towns and from a state grant of about \$170,000. The new recycling center, including the building, bins, and office cost about \$60,000.

As you approach the center from the steep drive leading up from Route 44 there are signs directing you to "glass," "metal," "brush" or "garbage," depending on what you want to leave off. The shed itself is a large metal garage, inside of which is an open area containing several sorting tables and, against the back walls, labelled chutes. The chutes are marked "white," "brown," and "green" for glass, "cans" for tin and bimetal cans. At one end of the shed is a large trailer where you can leave your bundled newspapers. Outside the other end is a ledge over which you throw other household garbage into a bin, later to be taken to the landfill.

Across the drive from the recycling shed is the landfill office, another garage-like structure, furnished with wood panelling, office furniture, a linoleum floor and rugs. One wall is

decorated with posters from a recent slogan contest sponsored in area schools by the Regional Refuse Disposal District Board.

"After a beer put it in here," says one.

"Mashing and crashing trash is our business," another.

Mrs. Barnes is seated at the conference table.

"It's amazing what people throw away," she says. "We got these rugs from people who were throwing them out. We also use a refrigerator that was discarded."

As she has done with numerous other visitors, Mrs. Barnes explained to me the working arrangements of this surprisingly profitable recycling center.

"We are still a very small operation," she said. "I'm the only volunteer and I come here about once a week. We have a part-time, paid administrator. We have one part-time employee who is paid on CETA funds (funds provided by the federal government for manpower training and development) and one full-time person who works at the recycling building. There are also three people who manage the landfill area who were hired by the Regional Board. They would be hired whether we were here or not."

She also explained where each of the recycled materials is sent. Glass, she said, is trucked to the Glass Containers Corporation of America in Dayville. Color-sorted into white, green and amber, it brings \$25 per ton for the first eight tons and \$30 for each additional ton.

(continued on next page)



Entrance to landfill.

"They can make new bottles out of old ones and use less energy than if they made them from sand," Mrs. Barnes noted. "The company has been very helpful. We just have to make sure that there are no metal rings on the bottles when we bring them in." Glass recycling earned \$6,605.10 for the recycling center over the last 9 months.

The second largest money earner was paper, earning a 9-month total of \$3,059.95. The problem with recycling paper is that its value varies greatly, according to Mrs. Barnes. "We've seen the price range from \$1 to \$30 per ton."

Newsprint is picked up at the center by the Connecticut Paper Company in Waterbury. Pure newsprint, unmixed with magazines, paper bags or cardboard, brings \$20 per ton at present. Mixed with magazines, it sells for \$15 a ton. Cardboard is taken away but, having no resale value at present, earns nothing. Recycling cardboard did keep 274.1 tons of material from being buried in the landfill, however.

Metals can earn considerable sums if carefully sorted. Once per month Reynolds Aluminum sends a truck down to collect pure aluminum cans, paying \$300 per ton. Mixed aluminum--aluminum with rivets or bimetal cans--gets only \$7. Tin cans, hard to get rid of because most of the steel mills that would use them are in the mid-west, are trucked to a scrap dealer in Hartford who in turn sells them to a company in New Jersey. They earn about \$15 a ton for the landfill. Scrap metal is similarly trucked to a scrap dealer--at the center's expense--for a return of about \$14 per ton.

"These arrangements are the result of a lot of investigating," Mrs. Barnes commented. "We'd see what was done in other recycling centers and call the scrap dealer or company they contracted with. On occasion we've changed dealers to get a better price. There was some trial and error involved."

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The thrift shop.

One rather vague item on the center's accounting sheet is the entry "Recycling Building--\$915.00."

"That," said Mrs. Barnes "is what we earned from things that were simply too good to throw away. We sold them. There is a thrift shop in the shed."

Out in the shed amid the chutes and sorting tables is the thrift shop--a corner displaying stoves, baby carriages, furniture and books, all in good condition.

Assistant Administrator Mary Wabreck, the center's only full-time paid employee recalled what probably was the best bargain the thrift shop ever offered.

"A man came here with his son and the boy had his eye on a dusty old television set," she said. "It looked so bad I told them to take it home for free. The next day the father came back. He felt he had to pay me something. The boy had cleaned it up, fooled around with it and found out that all it needed was a little vacuum tube to make it work. It turned out to be a color TV!"

"I took \$2 for it," she added.

Up a hill from the shed you can see the actual landfill site--neatly managed, packed and covered with dirt at the end of each day. Even at the landfill, wastes are sorted according to their composition: garbage in one space, construction rubble in another, wood and brush in another. Industries in the region have their wastes trucked to the landfill. Industrial wastes--some hazardous--are buried in areas specially prepared to prevent rainwater from seeping through them and causing possible groundwater contamination.

The operation runs smoothly, but Mrs. Barnes still has some minor dissatisfactions.

"The tonnage of material we have collected for the past two years has remained almost the same," she said. "It should be going up. We're not reaching enough people."

In order to convince more people of the need for recycling, the RRDD Board is sponsoring a slogan, essay and poster contest in local schools. "We hope to reach the school children and through them, their parents." In addition to offering prizes for individual work, the school that accumulates the most awards will be given \$200. Prize money will be provided entirely from recycling revenues.

Other projects include the regular local cleanups and a booth at the fall Bicentennial Fair, all of which, hopes Mrs. Barnes, will convince people that "trash is everybody's problem, and solving the problem has got to start in the home."

Mrs. Barnes stresses that a community does not have to be well-populated or affluent for its recycling project to be successful.

"We're only four rural towns," she said, "with a total population of only 20,000. We've had no real problems with the project."

"Sometimes we've had to watch people so they put things in the right bins, or

have had to tell them to leave the material outside so we could sort it and put it in ourselves.

"There's been no vandalism to speak of, either. Altogether it's been a singularly happy experience."



Kathleen Barnes.



'Charter Oak' seedlings offered

Joseph N. Gill, Commissioner of the Department of Environmental Protection, has announced that two-year old white oak seedlings, direct descendants of the Charter Oak, will be offered to Connecticut towns for commemorative plantings during the Bicentennial year.

"Tree planting," said Commissioner Gill, "is an excellent means of commemorating the birth of our Nation and one that provides lasting benefits. In this case, the Charter Oak seedling represents a direct tie with those historic

times when the Colony of Connecticut showed resistance to English rule long before the American Revolution."

According to State Forester Robert L. Garrepy, one tree will be available to each of the 169 towns in the state. Requests must be made by the Town Bicentennial Committee, Conservation Commission, or Chief Administrator, and should be sent directly to the State Forester's Office, State Office Building, Hartford, Connecticut 06115.

"The trees will be pre-potted and ready for planting," said Garrepy. "Requesting organizations should keep in mind the fact that the trees are seedlings--10 to 15 inches in height, and must be handled with care." Orders will be accepted beginning on May 10, 1976. There is no charge.

(continued on page 11)

'Clean Air Week' Ceremonies

Governor dedicates DEP van

On April 30, Governor Ella Grasso dedicated the Department of Environmental Protection's (DEP) new mobile air monitoring station and laboratory and issued an official statement designating May 2-8 as Clean Air Week under the sponsorship of the Connecticut Lung Association (CLA). The dedication took place in ceremonies on the Capitol grounds.

The 26-foot white van, dubbed "Moby Dick" by DEP personnel, will be operated by the department's Air Compliance Unit and is equipped to monitor six major air pollutants. It contains monitoring equipment which can be tied into a computer in the Air Compliance Unit's Hartford Office by telephone line, supplying real-time data.

The van is capable of monitoring total suspended particulates, sulfur dioxide, carbon monoxide, photochemical oxidants (ozone), hydrocarbons and nitrogen dioxide. It can connect to a local power source or use its own propane fired generator for electricity. Propane is used in the generator because it is less polluting than gasoline.

Besides containing the instruments necessary for monitoring air pollution, the van is equipped to gather meteorological data on temperature, dew point, wind direction and speed, wind variation, precipitation amount, pressure and incoming solar radiation. "Moby Dick" will also be used for educational purposes. It will be equipped for slide presentations, and students will be able to view pollutant samples collected as well as monitoring instruments in action.

Clean Air Week is intended to call attention to the progress made in dealing with air pollution problems, while reminding all citizens of the tremendous tasks remaining and of the serious health threats represented by smog and other air pollutants.

In commenting on Clean Air Week, Wallace Pringle, Ph.D., Chairman of CLA's Air Conservation Committee, said, "Because the air we breathe belongs to all of our citizens and the quality of the environment affects the health and well-being of everyone, clean air should be a concern of every Connecticut citizen."

In her official statement, Governor Grasso commended the Connecticut Lung Association and the Department of Environmental Protection for their efforts in dealing with air pollution problems. She called on all Connecticut citizens to support ongoing programs to deal with the serious problems remaining to be solved.

The Connecticut Lung Association has recently prepared a package of material that will provide general information on the dangers of air pollution and the organization's activities. The material is available by writing 'Clean Air', 45 Ash Street, East Hartford, Connecticut 06118, telephone 528-9437.

Seedlings *(cont'd from p.5)*

The original "Charter Oak" was an old tree when, in 1689, it was used as a hiding place for the Great Charter of Connecticut Colony, issued by King Charles II of England. The very fact that the document was hidden in the hollow trunk indicated the white oak was already quite ancient. When the tree blew down in 1856, it measured 33 feet in circumference and was estimated to be nearly 1,000 years old.

Records indicate that a Mr. Samuel Whitman of Hartford collected acorns from the Charter Oak in 1847 and started several seedlings. One of these was transplanted to Bushnell Park in 1867. In 1974 acorns from this tree were gathered by State Forestry personnel and sent to the Forest Tree Nursery in Voluntown.

Said Commissioner Gill, "Many groups have selected tree planting as an ideal means of celebrating the Bicentennial year. The Charter Oak seedling, a direct link with the past, should be a welcome addition to such ceremonies."

Each tree will be accompanied by a certificate of authenticity, a short history of the Charter Oak and its descendants, and instructions for planting and care.

Fishway

Officially Opens

A "first" for Connecticut and a goal of fish biologists, fishermen and environmentalists was achieved on April 28 with the dedication and formal opening of the fishway at Rainbow Dam on the Farmington River in Windsor, Connecticut. Governor Ella Grasso formally opened the fishway and was presented with a deed of conveyance by Donald W. Davis, President of the Stanley Works.

The fishway, a joint venture of The Stanley Works, the State of Connecticut and the Federal Government, enables fish to bypass Rainbow Dam and move upstream into the Farmington River and its tributaries to spawn. Biologists hope that one of the major benefits of the fishway will be a return of salmon to the Connecticut and Farmington Rivers. The Stanley Works contributed \$200,000 to the project, the State of Connecticut \$175,000 and the Fish and Wildlife Service of the United States Department of the Interior matching funds of \$375,000.

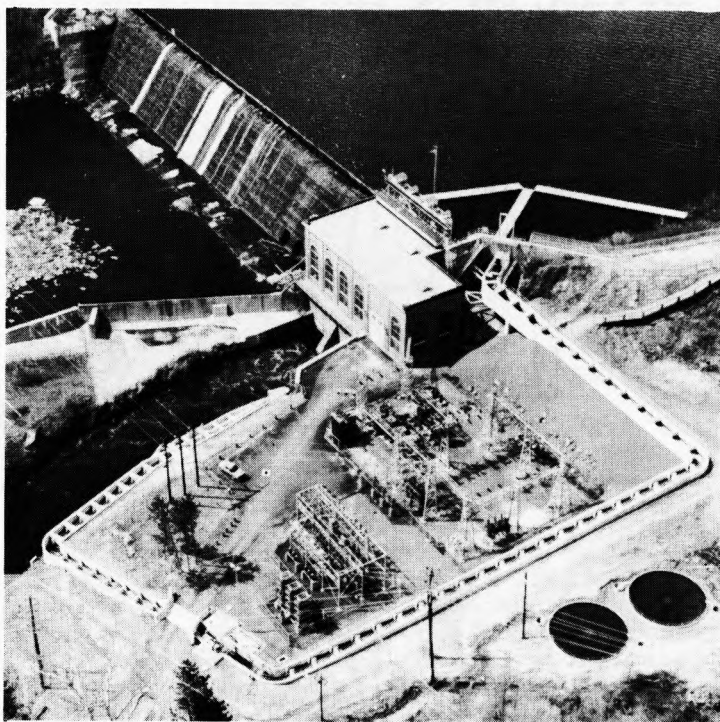
Governor Grasso stated that Connecticut is proud of the record of cooperation that has been achieved among the state, federal and private sectors. "This fishway," the Governor said, "is an excellent addition to that record. In addition, the environment of our state will be enriched with the return of the Atlantic Salmon to our rivers and streams, thanks to this unique fishway."

Mr. Davis said that the fishway is a good example of how business and government can cooperate for the benefit of society. "The construction of the fishway," Mr. Davis stated, "brings two important ecological benefits. It contributes to the return of valuable species of fish to our rivers. And it enables The Stanley Works to continue to use its hydroelectric generating plant to help fill our demands for energy that might otherwise have to be generated by burning high-priced imported fuel."

The fishway, which has been in test operation for several weeks, is a 750 foot long series of concrete boxes, or weirs, that extend from the base of the dam around the power station to the top of the dam, providing an elevation of 59 feet. Water flows down through slots in the weirs at a velocity and with a turbulence that attract fish swimming upstream in

the Farmington River seeking spawning grounds. Richard Hames, State fish biologist who will supervise fishway operation, reported last week the first sighting of a shad making its way through the fishway.

The Connecticut Fish and Wildlife Unit several weeks ago stocked two holding pools adjacent to the fishway with 28,000 two-year-old salmon, called smolts. As the young salmon became acclimated to, or "imprinted" with Farmington River water flowing through the pools, the fish let the flow of water draw them through a pipe into the fishway and then downriver to the sea. State fish biologists hope that the imprint of the river will bring the salmon back to the Farmington River when they return from the sea to spawn in from one to two or more years.



The fishway is a series of concrete boxes extending 750 feet from an opening in the dam to the base of the power plant. Dark circles, lower right, are stocking pools where young salmon are acclimated to Farmington River water.

Connecticut's Soil and Water Conservation Districts

by

Chris Janis, Editorial Writer
USDA Soil Conservation Service

The average, unassuming reader is constantly bombarded with the lazy American habit of shortening anything that takes too long to write or repeat, such as USA, NAACP, AFL--CIO, and USDA. Through repetition he learns to recognize most of them.

But how many people know what SWCD stands for?

One employee of the USDA Soil Conservation Service didn't know what it stood for until she had been working there for two months.

SWCD is the Americanism for Soil and Water Conservation Districts of which there are eight, one for each county in Connecticut. There are 3,000 such districts throughout the United States.

Although this may be the first time many readers are hearing of SWCD, it has been affecting their daily lives for over 31 years. The SWCD has been helping

individual property owners develop conservation plans, which include constructing ponds, drainage systems and other suggested ways to stop soil erosion.

In the 1930's the warnings of Hugh Hammond Bennett, often called the "Father of soil conservation" and the dust storms of the early Depression succeeded in convincing the nation that soil erosion was a problem of critical concern. In 1935, Congress established a federal agency, the USDA Soil Conservation Service, to begin to deal seriously with the matter.

After a few years, it became evident that effective soil conservation work was done faster and better when landowners and operators themselves took a large and active part in the job. Out of this idea grew the soil conservation district.

In 1937, President Roosevelt encouraged each of the 48 states to pass laws that would enable local people to create organizations having few governmental powers, but which would provide a means for citizens to participate in the planning and protection of their property. Since then the SWCD, an agency dependent upon



individual contributions, has worked with the USDA Soil Conservation Service to provide technical advice and assistance to the districts on soil-related problems. Without the SWCD, individual landowners would have been unaided in correcting soil erosion from incorrect land care, health hazards caused by failing septic systems, and basement flooding from incorrect land use.

Each district of the SWCD has seven unpaid, locally-elected citizens, called soil and water conservation district supervisors, who assist in making policy decisions concerning local conservation problems.

"The reason for a local board of supervisors," said Elizabeth Brown, chairman of the Connecticut Council on Soil and Water Conservation, "is that each part of Connecticut is different and therefore, problems encountered by each part are unique to that area. Local people know what their conservation problems are."

"Working with the Soil and Water Conservation Districts is a worthwhile educational experience for all concerned," said Mrs. Brown. "We've aided not only farmers but non-agricultural individuals as well."

One "satisfied customer" of SWCD is Suffield High School, in Suffield. This spring, the Hartford County Soil and Water Conservation District has been assisting the high school with drainage problems on its Daniel F. Sullivan Memorial baseball field.

"The baseball field has many wet areas in the infield and the outfield," said Vern Anderson, District Conservationist, Soil Conservation Service in Hartford

County. To remove the water from these areas, we designed an underground drainage system to absorb excess water and remove surface runoff."

Harold Brown, Superintendent of Suffield Schools, said he heard about the Soil and Water Conservation Districts through his first selectman. "The district has been very obliging and spent a half-day here checking the field's soil and giving advice on how to correct our situation. They also volunteered the services of two surveyors," he said.

The town highway department will furnish men and equipment necessary to do the job, Brown said, and when the baseball team completes the job by raking the field, Suffield will have a baseball field they can be proud of.



Coastal Board appointees

Melvin J. Schneidmeyer, Deputy Commissioner of the Department of Environmental Protection (DEP), introduced ten new citizen members to the Connecticut Coastal Area Management Advisory Board in an announcement on April 28. These new members, chosen for their diverse backgrounds and interests, round out an advisory board composed of fourteen representatives from state agencies and coastal regional planning agencies.

The Advisory Board oversees the activities of the DEP Coastal Area Manage-

ment Programs, begun in response to the Federal legislation passed in 1972. Now in its second year of development, the Connecticut program intends to work closely with local communities to help coordinate the maze of existing laws in the coastal area, and, if necessary, work to develop new legislation to protect and improve Connecticut's coastal resources.

The ten appointees to the Advisory Board are: Julie Belaga of Westport, Roland Clement of Norwalk, John Daniels of New Haven, John Hibbard of Hebron, Stuart Johnston of Clinton, Gene Marra of Madison, J. Richards Nelson of Madison, Richard Palmer of Devon, John Rankin of Warrenville, and Sidney Van Zandt of Noank.

Noted Ornithologist to Conduct Workshop



Dr. Richard Fisher, nationally known ornithologist and professor of Environmental Education at Cornell University will conduct two one-day Field Ornithology workshops at the Eliot Pratt Education Center on May 15 and 16, 1976.

Dr. Fisher has written more than 100 articles and papers on birds, natural history and environmental education topics. Having studied under Arthur A. Allen, Fisher has observed birds and their behavior on three continents. His mono-

graph on the Chimney Swift is regarded as the basic reference on the species. The professor is also the Science Editor for Our Living World of Nature and Consulting Editor for Ranger Rick Nature Magazine.

During the workshops, Fisher will lead field walks to discuss resident and migratory populations, demonstrate recording and taping techniques for bird songs and calls, conduct field studies in the behavioral and territoriality rights of various birds and discuss a variety of techniques that increase bird population in one's own back yard.

The number of persons in each workshop will be limited to 20 and the Pratt Center will enroll on a first serve basis. The fee for each workshop will be \$10.00 per person and \$18.00 per couple which will include a Continental breakfast. Each session will run from 6:00 A.M. until 2:00 P.M. For registration or more information, please call the Pratt Center at 354-3665.

Public Meeting: DEP Water Plan

Connecticut's Continuing Planning Process for the control of water pollution will be the topic of a public meeting to be held on May 26th at 1:00 p.m. and reconvened at 7:00 p.m. in the Judiciary Room, Third Floor, State Capitol.

The development of the Continuing Planning Process is a requirement of the Federal Water Pollution Control Act which made states responsible for the preparation of state water quality management plans, water quality strategies, water quality standards, and annual water quality inventory reports. According to DEP Water Pollution Engineer, Fred Banach, the purpose of the meeting is "to present to the public a document which summarizes specific planning responsibilities of the state water pollution control agency and the mechanisms by which the planning elements are interrelated.

"What makes this Continuing Planning Process different from previous years is that this year's proposal contains a description of how Areawide Wastewater Management Plans prepared under Section 208 of the Federal Water Pollution Con-

trol Act will be incorporated into the state's water quality management plans," Banach said. "The meeting is an attempt to solicit recommendations concerning improvements to the processes by which public input is obtained."

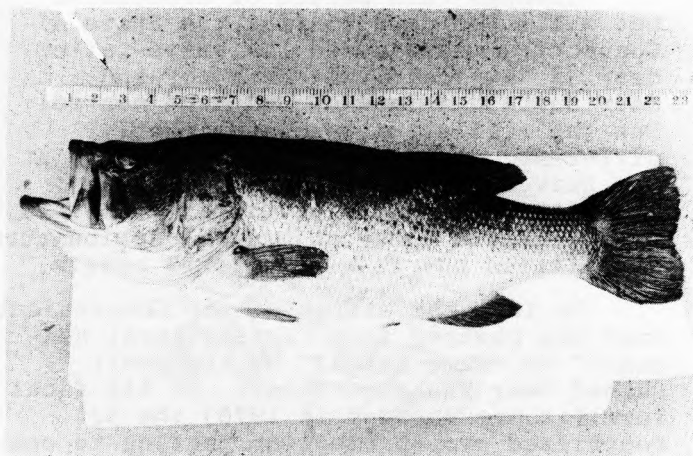
Written comments may be presented at the meeting or submitted in advance to the Water Compliance and Hazardous Substances Unit, State Office Building, 165 Capitol Avenue, Hartford, Connecticut 06115. All statements submitted in advance will be read at the meeting.

Copies of the Continuing Planning Process are available for inspection at the State Office Building; limited copies are available from Mr. Banach at the above address.

Nature Course

A week-long Camp Nature Counselor Training Program will be offered by the New Canaan Nature Center from June 7 to 11 on the Nature Center grounds. Designed to provide a natural history background and teaching suggestions for prospective nature counselors, the program will cover pond life, live animal care, field, botany, astronomy, and other topics. The cost for the 5-day course is \$60. Please call the New Canaan Nature Center at (203)966-9577 for further details.

Connecticut's Trophy Bass



(photo by Jack Niedzwiecki)

In the northern states, particularly those in the Northeast, fishing to most anglers means trout, with as many as 80 per cent of Connecticut's anglers indicating a preference for trout fishing. But despite this preference, an increasing number of Connecticut fishermen are rediscovering the pleasures of fishing for bass.

Part of the reason is the abundance of this game fish in almost all Connecticut lakes and ponds. According to Cole Wilde, Director of DEP's Fish and Water Life Unit, "while a great many lakes and ponds in Connecticut are not suited for trout, virtually all support sizeable populations of largemouth and smallmouth bass. Not less than 140 lakes and ponds in the state have yielded trophy-sized fish in the last ten years."

Trophy-sized fish are largemouths weighing more than 6 pounds and smallmouths weighing more than 4. These sizes were designated in 1965 as part of Connecticut's Trophy Fish Award Program in which certificates and bronze, silver and gold pins are awarded to fishermen who land trophy-sized catches.

"In the last ten and a half years we have awarded 475 certificates for largemouth catches and 138 for smallmouths," Wilde said. "And these numbers probably account for less than half the trophy fish taken each year in the state."

Wilde noted that bass found in Connecticut do not weigh as much or grow as rapidly as those found in the deep South. "This is due to the shorter growing season in the North," he said. "But

Connecticut's bass fishing does not take a back seat to any other northern state's."

Connecticut's record largemouth bass weighed 12 pounds 4 ounces and was caught in 1961 by Frank Domurat at Mashapaug Lake. The record smallmouth, weighing 7 pounds 10 ounces was taken in 1954, also by Mr. Domurat at Mashapaug Lake.

"Under the present 12 inch minimum legal length, fishing pressure poses no real threat to bass populations in Connecticut," Wilde said. "By the time they are twelve inches long bass have had an opportunity to spawn at least once. But they do not become overabundant and stunted as they would if the limit were 14 inches."

"All available evidence indicates that trophy bass are as abundant today as they were 25 years ago," Wilde stated.

Edible Plants Workshop



The Audubon Center in Greenwich and the American Nature Study Society will co-sponsor an Edible Plants Workshop at the Audubon Center on the weekend of May 22-23, 1976, led by Helen Ross Russell, noted author, educator and naturalist.

The workshop will emphasize the proper identification, gathering, preparation and conservation of edible plants. As part of the course, participants will prepare their own meals under the culinary supervision of Dr. Russell.

Dr. Russell is the author of Foraging for Dinner, published by Thomas Nelson, Inc. in 1975. She received her Ph.D. from Cornell University where she was a student of the well-known botanist Walter Conrad Meunscher and naturalist E. Laurence Palmer. She is a former President of the American Nature Study Society.

Interested individuals should contact the Audubon Center in Greenwich at (203) 869-5272 as soon as possible, as registration is limited.



from the field

by Douglas Starr

"There are at least one dozen white-tailed deer within the boundaries of the state."

First Biennial Report
Commissioners of Fish and Game
State of Connecticut - 1896

Recent estimates put the population of Connecticut deer at about 19,000, a considerable improvement since they were nearly wiped out in the mid-1800's. But according to DEP Wildlife Biologist Paul Herig, the history of deer in the state has been a series of growths and declines.

"Deer populations began to decline in the 1600's, shortly after the first settlers arrived in the northeast," he said. "By the early 1800's both uncontrolled commercial hunting and severe winters put deer in the northeast in danger of extinction. Finally in 1893 the Connecticut Legislature enacted a law giving complete protection to deer--prohibiting all deer hunting for the next ten years." The restrictions saved the herds, putting them on firm enough ground that the Commissioners of Fisheries and Game reported finding at least twelve deer in the state in 1896.

One notable feature about deer is their remarkable ability to reproduce. With each doe producing two or three offspring per year, a population can quickly double under ideal conditions.

The tentative recovery that Connecticut deer made soon turned into a boon. By 1906 the state was paying farmers compensation for damage done to their crops by deer, according to Herig. From 1906 to 1917 the state paid out more than \$20,000 for crop damage.

In 1907, to minimize the amount of funds paid, the state allowed property owners and lessees to kill deer found damaging their crops. This privilege was progressively expanded to allow owners, their employees, family members

and designees to shoot an unlimited number of deer after obtaining a free permit. In 1949 the first permits were issued to permit jacklighting--hunting deer at night by first fixing them with a light.

Through this period of undeclared but unlimited deer hunting the State of Connecticut considered the white-tailed deer an "agricultural nuisance" and deer hunting a form of nuisance control. But the real situation was probably different. According to a 1957 study at the University of Connecticut, "the majority of Connecticut property holders... do not regard these animals as agricultural liabilities but as recreational assets."

In 1974 the status of the Connecticut deer was changed from "agricultural nuisance" to "game animal" by the newly passed Deer Management Act. In its final form (it was amended in 1975) the Act restricted crop-protection hunting to one deer per person per year, with a 3 deer per property limit. It also mandated Connecticut's first open deer season, to be regulated by DEP.

"For the first time deer in the state were to be managed on a biological basis," Herig commented. "The new hunting season allowed us to collect biological data needed to effectively manage the herd."

Prior to the 1975 season, Herig conducted two aerial surveys, one in 1974 and one in early 1975, to determine the number of deer in the state and how many could be safely harvested. He estimated 19,000 deer. The number of hunting permits that would be issued was determined by allowing for a 33% harvest per year, coupled with a predicted success rate of 10% among hunters (actual successes are far less, but a high number was chosen to allow for a safety margin). Hunters actually took 536 deer during the season, well below the 33% safe harvest limit.

All deer taken during the season were required to be brought to biological check stations where information on the age, sex, size and condition of the animal was recorded. "Our purpose is to assess the condition of the deer," said Herig, "and



Trailside Botanizing

by G. Winston Carter

FRINGED POLYGALA
(*Polygala paucifolia*)



Pam Carter

This delicate orchid-like flower is often called Gaywings or Flowering Winter-green. It is not a true orchid but belongs to the Milkwort family. Rich or rocky woodlands are the usual habitat of polygala, but it can also live in alkaline bogs.

(continued from page 12)

to compare it with where the deer came from. This will indicate if there are habitat problems and if so, where they exist."

Supplied with teeth and reproductive tracts taken by university students who man the biological check stations, graduate student Dick Armstrong studies the age structure and reproductive success of white-tailed deer as part of his MS work at the Yale School of Forestry. He examines the teeth by first softening them, then freezing, slicing and viewing them under a microscope to count the layers.

"Like trees, deer teeth add one layer per year," Armstrong explained. "By taking cross sections of the teeth and counting the annual layers of cementum we can determine the animal's age."

With the teeth from 300 deer already examined and about 300 to go, Armstrong finds that most of the deer taken by hunters are in the 3-5 year old category.

The fringed polygala is a Canadian carpet plant whose seeds were originally distributed to this area as a result of glacial action. The most interesting feature of the fringed polygala is the adaptation of its flowers. There are two kinds of flower: one which is insect-pollinated and the other which is self-pollinated.

The showy insect-pollinated flower is rose-purple to wine colored, and on rare occasions is white. The flower consists of two upper flaring petals and a lower, boat-shaped one which is fringed to attract insects. Bees that pollinate this flower are most successful if they are heavy enough to depress part of the flower, force the stamens and pistil to come free and make contact with the insect.

The self-pollinating kind of flower (cleistogamous) is an inconspicuous, closed flower that is borne on an underground stem. This flower gets its name from two Greek words meaning "closed marriage." It bears many fertile seeds and, in addition to being found in polygala, is found in most types of violets and in hog peanut.

Self-pollination is a type of back-up system to ensure fruit. Polygala blooms early May to June, when there are few insects around and weather conditions may be uncertain. In such conditions, true pollination might not take place. These tiny closed flowers are a safeguard to provide seeds no matter what the circumstances are.

This age distribution indicates "a healthy population, one that is living in balance with its environment."

In another study, Armstrong examines the reproductive tracts of female deer to analyze their reproductive capacity. "From the small sample size we've obtained I'd say that the deer in general are in good reproductive shape," he commented.

Herig uses Armstrong's data in planning for future deer management and hunting seasons. Based on the information gathered, the Wildlife Unit will plan season lengths and management techniques for the state's deer herd.

"Our primary purpose is to ensure the welfare of the deer," Herig said. "Secondarily, we serve the people to whom the deer are important from an economic, recreational or aesthetic viewpoint. In light of man's intervention any animal, whether hunted or not, is better off under proper management than under no management at all."

Department of Planning and Energy Policy:

P.E.P. TALK

by Tom Richard Strumulo

This month we are introducing "P.E.P. Talk," a monthly column from the Connecticut Department of Planning and Energy Policy on energy facts and issues. Tom Strumulo is a Planning Analyst for the DPEP.

THE ENERGY CRUNCH: Three years ago "energy crunch" might have been a dynamic new breakfast cereal. Today it is a well-worn phrase with no more kick than milk toast. Stung first by skyrocketing fuel prices, discouraged for more than two years by the resultant inflation, and somewhat bewildered by stabilizing prices and varying explanations by "experts," Connecticut consumers are hard pressed to make sense of the state's ongoing energy problems.

This column is designed to separate actual issues from rhetoric and to minimize the emotion obscuring them from general view. Partly news as well, TALK will provide an opportunity for readers to keep up with the latest energy-related government decisions.

Connecticut faces serious decisions affecting the use of such controversial fuel types as coal, nuclear and oil. Many options are open to the state, yet movement towards them is slow. These are some of the issues that make Connecticut's energy situation unique--and dangerous:

PETROLEUM PRODUCTS: Connecticut relies on oil, the most expensive fuel, for most of its energy. As a result, our fuel bills are $1\frac{1}{2}$ times the national average, and our economy has suffered accordingly. Worse, foreign sources of oil have become even more important to Connecticut consumers since the embargo of 1973. Dependence on this non-domestic supply must be reduced.

NUCLEAR: Debate rages more fiercely in no other field of energy than this. Is it safe? Is it inexpensive? Which "qualified" scientists are to be believed, those for or those against?

The General Assembly and the Governor have set up no less than four special task forces to analyze the safety and economic issues intrinsic to this source of electricity.

COAL: Only ten years ago, Connecticut's fuel mix included 21% coal. Now less than a thousand homes use any coal at all, and the nation's most abundant fossil fuel accounts for less than one percent of the state's gross energy needs. Because we have already been exposed to the threat coal burning poses to clean air, inviting coal back for, say, massive electrical generation seems unlikely. But if not coal, and if not nuclear, and if not oil, then what?

THE TECHNOLOGY OF ENERGY CONSERVATION: In the dark of the rhetoric and indecision surrounding energy issues shines a single light: energy not wasted today means more and precious tomorrows. The Term "energy conservation" has been misleading. It has been oversimplified to mean driving 55 and keeping the house at 68. Its connotations have come to include discomfort and a less acceptable lifestyle.

Energy conservation is in fact a creative science and as such must be given full status among what seem to be more glamorous technological solutions to our energy problems. Energy conservation means the design and development of better appliances, better systems of transport, better ways of heating and lighting our homes, businesses, and industry. Conservation does not mean a poorer Connecticut, only a Connecticut more completely respectful of the finite sources of energy on which it now depends.

Through education, energy conservation will no longer conjure up visions of cold homes and unsafe speeds. Through understanding, we can curtail our wasted energy while maintaining our quality of life.

Department of Planning and Energy Policy
Lynn Allen Brooks, Commissioner
20 Grand Street
Hartford, Connecticut
06105



university of connecticut
INSTITUTE OF WATER RESOURCES

Ash Residue Study

With the increasing use of incineration to treat sewage sludge as well as solid wastes, the disposal of incinerator ash is becoming an important question. Currently in many areas incinerator residues are sent to landfill sites without first considering whether impurities in the ash may be leached or washed into the groundwater supply. Placing this material in a landfill area without first considering its environmental impact may result in serious deterioration of the local water quality.

To assist decision-makers on incinerator residue questions, the Institute of Water Resources initiated a research effort in 1975 to investigate the nature of incinerator ash residues. The program is conducted by several faculty members at the University of Connecticut, and focuses on the physical and chemical properties of incinerator ash and how the soil below the residue may affect the ash-produced leachate.

The physical properties of incinerator residue are important in choosing a basic method of disposal. Directed by Dr. K. A. Healy of the UConn Civil Engineering Department, this phase of the study will focus on the mechanical and hydraulic properties of the ash including its density, strength, rate of compaction and permeability to rainwater. Information gained from this study will be useful in determining which processes to use for the transport and placement of residue ash. It will also indicate the feasibility of using the ash as building material in engineering projects.

Since incineration concentrates many diverse impurities into a single residue, many substances present in low concentrations in the unburned material are made more available for leachate after burning. A second objective of the research is therefore to determine the chemical components of incinerator ash and to measure the rate at which these substances are leached from the residue. This phase of the study will be under the direction of Drs. H. E. Klei and D. W. Sundstrom of UConn's Chemical Engineering Department.

Thirdly, the renovation, or cleansing of the leachate by soils under the residue, will be considered in this research. If ash residue is placed on a very permeable soil type, little water will be held up in the residue, and the rate of chemical extraction out of the ash will be low. At the same time, the amount of cleansing the water undergoes after it drains from the residue will also be low, since it will have spent little time in the purifying soil.

On the other hand, highly impermeable soils provide longer water contact with the residue, more extensive chemical leaching, but longer renovation time in the underlying soils. The ideal is to find a soil between these two extremes that will allow the best quality of water to enter the groundwater.

The UConn study is expected to have local as well as nationwide applications. The Hartford Water Pollution Control Plant produces sludge incineration residue at the rate of 5,000 to 7,000 cubic yards per year, all of which is stored in two lagoon systems. With the next few years the storage capacity of these lagoons is expected to reach a limit, and alternative disposal methods for this material must be devised. The most satisfactory alternative would be to find a practical use for this material. If this is not possible the sludge may be burned and put in a landfill area. Any alternative that is used must comply with health and environmental regulations and must be economically feasible.

Since the beginning of the research on incinerator ash residues last July, significant progress on several of the objectives has been made. Results of the studies and recommendations for residue disposal will be made available upon completion of the project in September, 1977.

(The Citizens' Bulletin is supported in part by funds provided by the U. S. Department of the Interior, as authorized by the Water Resources Research Act of 1964, PL 88-379.)



Conservation Commission Corner

by Gay Ewing

Connecticut Assoc. of
Conservation Commissions

GUILFORD: THE WESTWOODS TRAIL SYSTEM--

One of the most difficult problems faced by conservation commissions and land trusts is how to conduct effective volunteer projects. The Guilford Conservation Commission, under its former chairperson Anne Conover, has in its Westwoods Trail System, an excellent example of how to conduct a successful volunteer project.

Located in the southwestern end of Guilford less than a mile from the town green, the Westwoods is an open space of about 2,000 acres of forest and marsh. About 300 acres of the area is owned by the State of Connecticut as part of Cockaponset State Forest; the Town of Guilford owns about 15 acres; Guilford Land Conservation Trust owns almost 100 acres; 200 acres is maintained as a tree farm by the Leete family; and the rest is privately held in small parcel ownership.

The original inspiration for building a trail system in Guilford came from the Guilford Conservation Commission. The specific area was suggested by State Service Forester Michael Pochan, a man who was intimately acquainted with the Westwoods area from surveys and visits made over a period of over 25 years.

In the spring of 1966 the Conservation Commission appointed Mr. Pochan coordinator of the proposed trail system and at his request hired Trail Consultant Richard Elliot to design the trail. Working closely with the Guilford Conservation Commission, Mr. Elliot designed the trail so that all local points of interest would be accessible to hikers and paid strict attention to soil conditions and vegetation in the area. The trail was contoured to avoid erosion and the destruction of valuable vegetation was kept to a minimum.

All of the work in clearing and maintaining the trail was done by volunteers. The success of the volunteer program rests on the fact that for years Michael Pochan had developed a strong rapport with hikers and nature lovers in the area. When the trail was ready to be cleared there were already a great number of people in the area who were eager to help.

During the time that the conservation commission was developing the trails it was gathering information concerning the conservation needs of the town. From that evolved "A Conservation Plan for Guilford," later updated and published as "A Continuing Plan for Conservation." These plans served as guidelines for many conservation projects conducted over the last thirteen years, among which were the acquisition of several open space areas in town and the setting up of private land trusts.

Today the Westwoods trail system, consisting of over 40 miles of trail, is used by more than 10,000 hikers and horsemen each year. Walkers can take trails leading past such scenic areas as the Rift, Massive Rick Forms, Vista to the Long Island Sound and Rock Canopy.

The continuing work of trail improvement in Westwoods is carried out by the Westwoods Trail Committee, a group which meets at the Guilford Recreation Center on the third Thursday of each month. Those willing to devote time and work can join the Trail Committee by coming to one of its monthly meetings.

The Westwoods Trail Committee, the Guilford Conservation Commission and others associated with Westwoods hope that someday all interior parcels of Westwoods will be owned by public or private agencies committed to maintaining its unspoiled nature. During the last four years the State Forester has acquired two parcels of land totalling 30 acres and the Guilford Land Conservation Trust has obtained four parcels totalling 100 acres.

ANNUAL MEETING--Don't forget the Connecticut Association of Conservation Commissions annual meeting: Oldfield School, Sullivan Place, Fairfield, Connecticut, on May 22, at 11:00 a.m.



DEP Calendar

Public Hearings May-June, 1976

Water Resources

May 18, 1976 - 10:00 a.m.
State Capitol, Room 310
Hartford, Conn. 06115

Purpose: To request an Inland Wetlands Permit.

Stephen Barberino
Wallingford, Conn.

May 20, 1976 - 10:00 a.m.
Board of Representatives Meeting Room
Second Floor
Municipal Office Building
Stamford, Conn.

Purpose: To request an Inland Wetlands Permit.

Nicholas Gerovese
Stamford, Conn.

June 2, 1976 - 10:00 a.m.
State Office Building, Room 221
165 Capitol Ave.
Hartford, Conn.

Purpose: To adopt regulations concerning the maintenance of minimum flow in streams stocked with fish by the Department of Environmental Protection.

Department of Environmental Protection
Water Resources Unit
State Office Building
165 Capitol Avenue
Hartford, Conn. 06115



Water Compliance

May 27, 1976 - 10:30 a.m.
122 Washington St., Room 1
Hartford, Conn.

Purpose: To request a permit to discharge 1,200 gallons per day of treated metal finishing effluent to the groundwater in the town of North Stonington.

Posi-Seal International, Inc.
Route 49 and U. S. 95
North Stonington, Conn. 06359

May 27, 1976 - 11:00 a.m.
122 Washington St., Room 1
Hartford, Conn.

Purpose: To request a permit to discharge 5,000 gallons per day of general metal finishing wastewaters to the Mattabassett District Commission sewer system in New Britain.

Machistry Industries
206 Newington Ave.
New Britain, Conn. 06050

June 3, 1976 - 10:00 a.m.
122 Washington St., Room 1
Hartford, Conn.

Purpose: To discharge 10,000 gallons per day of clarified filter backwash to the groundwater of Westbrook.

Connecticut Water Co.
Westbrook, Conn.

Permits Issued April, 1976

Air Compliance

April 1
General Electric Co.
Permit to construct a powder mix process at the General Electric Co. in Bridgeport.

April 1
Kerite Co.
Permit to construct and operate a chem-mix process with a dust collector at the Kerite Co. in Seymour.

Permits Issued (cont'd)

Air Compliance

April 5

Lisbon Textile Prints, Inc.
Permit to operate a rotary screen printing machine with dryer.

April 5

Bates & Son
Permit to construct a sulfuric acid anodizing line in Chester.

April 9

Walters Engineered Products
Permit to operate manufacturing equipment in Middletown.

April 9

City of Naugatuck
Permit to operate two boilers at the Naugatuck High School.

April 9

Suisman & Blumenthal, Inc.
Permit to construct a scrap metal shredder in Hartford.

April 13

Conn. Stamping and Bending
Permit to operate a plating line at the company in New Britain.

April 27

Peterson Steels, Inc.
Permit to operate a metal cleaning facility in Windsor.

April 27

AMF Cuno Division
Permit to construct and operate a packaged boiler in Talcottville.

April 27

F. L. Roberts & Co.
Permit to construct and operate a gasoline storage tank in Rocky Hill.

April 27

Bristol Brass Corp.
Permit to construct a chip dryer and afterburner.



April 27

Canton Board of Education
Permit to construct and operate two boilers at Canton Middle School in Collinsville.

April 29

Suisman & Blumenthal, Inc.
Permit to construct two diesel engines at their company in Hartford.

Water Resources

April 1

Jeanette Koczera
Permit to complete filling and channel work riverward of the established encroachment lines on her property in Newington.

April 2

Old Rock Road Corp.
Permit to conduct a regulated activity within an inland wetland and watercourse in Wolcott.

April 5

City of Milford
Permit to construct a gravity sewer across wetlands to an existing gravity sewer.

April 5

Browne, Inc.
Permit to remove a dam on Jordan Brook in Waterford.

April 7

Connecticut Water Co.
Permit to replace a water main under the Naugatuck River.

April 7

Brownstone Industrial Park
Permit for reconstruction of Brownstone Ave. within designated encroachment lines on the Connecticut River in Portland.

April 8

RAC
Permit to construct a parking area, sunken pool and play area in the rear of a 31-unit condominium north of Bridge St. in Stamford.

April 13

Seabreeze Realty
Permit to place 1,500 cubic yards of fill within the bounds of a wetland in West Haven.

Water Compliance

April 8
Hartford Jai Alai, Inc.
Permit to discharge 37,500 gallons of sewage and wastewaters from restaurant operations.

April 26
Uarco, Inc.
Permit to discharge treated metal etching wastewater in Deep River.

April 30
Capitol Car Wash
Permit to discharge 1,500 gallons per day of car wash rinse water to the Meriden sanitary sewer system.



Permits Denied

April, 1976

Air Compliance

April 27
Kerite Co.
Application to construct and operate a boiler in Seymour.

Water Compliance

April 2
Old Rock Road Corp.
Application for a sewer connection in Wolcott.

April 2
Old Rock Road Corp.
Application for discharge of drainage and runoff in Wolcott.

EPA crop damage study

The American farmer may end up with a substantial increase in farm earnings thanks to the new Environmental Protection Agency research into crop damage from air pollution.

This special research program, using methods more closely approximating real-world agricultural conditions than ever before, is investigating such subjects as the impact of (1) atmospheric pollutants on the rate of organic decomposition and the natural production of nitrogen fertilizer in soil; (2) acidic rain on plant nutrients and plant-soil changes; and (3) lead, mercury and cadmium on the growth and metabolism of vegetation and domestic animals.

The results of these and other studies will form the basis for more accurate assessments of the economic

damage of air pollution to agriculture, estimated by EPA scientists as ranging from tens to possibly hundreds of millions of dollars lost per year. The improved economic loss figures can then be used to determine appropriate regulatory programs for preventing crop damage and increasing farm earnings.

Air pollution damage to farm crops has been recorded in the U. S. since the turn of the century. What was once a problem associated only with specific sources of pollutants such as factories and power plants has evolved into the highly complex pollution problems accompanying urban expansion. In many areas, the continued commercial production of crops has been jeopardized and in some cases ended altogether.

Although translating the statistics on crop physical damage into actual economic loss figures involves a complex set of variables not easily measured, recent years have seen substantial documentation of financial harm from air pollution.



DEP citizens' bulletin

State of Connecticut
Department of Environmental Protection
State Office Building
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*Cover photos by Douglas Starr,
both taken at Region I Recycling
Center, Barkhamsted, Connecticut.*

front: glass recycling bin.

*back: Ass't. Administrator Mary
Warbreck, inside newspaper
trailer.*

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